

ABSTRACT

An Ethernet-PON integrates broadcast/communication through time division multiplexing, which provides users with high-speed, high-volume communication data and high-quality, real-time digital broadcast/image data. An OLT performs a switching operation on a plurality of digital broadcast/image data received from an external broadcaster according to respective broadcast/image selection information from users, time-division-multiplexes the data into a broadcast/image signal, multiplexes the signal and communication data from an IP network into a frame, and electro-optically converts the frame and transmits the frame to ONTs through an optical splitter. Each ONT receives and photoelectrically converts the signal from the OLT, and performs frame & time-slot demultiplexing to output the entire received communication signals and broadcast/image information contained in a time-slot assigned to the ONT to a corresponding user. The ONT receives a communication signal and broadcast/image selection information from the user, and outputs them to the OLT through the splitter.

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